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ABSTRACT

Based on a study of the 1985 and 1987 freshman cohorts' responses to a freshman survey, it was found that freshmen who express the intention of transferring from the institution have significantly higher withdrawal rates after their freshman year. A comparison of those who planned to transfer and those who planned to graduate yielded only one consistent result: Freshmen who plan to graduate from the institution feel that they receive more support from parents than those who plan to transfer. Hierarchical regression analyses showed that academic aptitude and goals and attitudes do not contribute significantly to the explanation of retention status. The intention to transfer or graduate interacts with freshman-year grade point average (FYGPA) in predicting retention status. Those students who planned to transfer and withdrew after their first year have the highest average FYGPA, whereas those who planned to graduate and withdrew have the average lowest FYGPA. Contains 10 references. (Author/KM)

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# THE RELATIONSHIP OF FRESHMAN'S INTENTIONS, MOTIVATIONS, ACADEMIC APTITUDE, AND COLLEGE PERFORMANCE TO PERSISTENCE IN COLLEGE

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This paper was presented at the Twenty-Ninth Annual Forum of the Association for Institutional Research held at the Omni Inner Harbor Hotel and the Lord Baltimore Hotel, Baltimore, Maryland, April 30 - May 3, 1989. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

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ABSTRACT

Based on a study of the 1985 and 1987 freshman cohorts' responses to a freshman survey, this paper reports that freshmen who express the intention of transferring from the institution have significantly higher withdrawal rates after their freshman year. A comparison of those who planned to transfer and those who planned to graduate yielded only one consistent result: Freshmen who plan to graduate from this institution feel that they receive **more** support from parents than those who plan to transfer. The hierarchical regression analyses show that academic aptitude and goals and attitudes do not contribute significantly to the explanation of retention status. The intention to transfer or graduate interacts with freshman-year grade point average (FYGPA) in predicting retention status: Those students who planned to transfer and withdrew after their first year have the highest average FYGPA, whereas those who planned to graduate and withdrew have the average lowest FYGPA.

## THE RELATIONSHIP OF FRESHMAN'S INTENTIONS, MOTIVATIONS, ACADEMIC APTITUDE, AND COLLEGE PERFORMANCE TO PERSISTENCE IN COLLEGE

The study of college attrition continues to be of interest to administrators. This interest may be enhanced by the recent emphasis on the demonstration of institutional effectiveness as measured by student persistence and graduation. However, concern about maintaining or stabilizing enrollments, particularly when budget allocations are based on student enrollment, are perhaps more common motivations for the perennial interest in retention. Whatever the motivation, institutional researchers respond to this interest by conducting attrition studies in an attempt to identify student characteristics that relate to persistence and graduation.

### THEORETICAL PERSPECTIVE AND LITERATURE REVIEW

Vincent Tinto's theoretical model has provided the framework for much of the recent research on college retention (1975), and his most recent publication further clarifies his model (1987). He draws upon several theories, but in simplistic terms, he emphasizes the congruency between the individual student and the institution. The individual's background characteristics, personal attributes, skills, value orientation, and educational experiences directly impact the educational and occupational goals and the level of commitment to these goals. The individual seeks enrollment in an institution which will support the attainment of these goals. Once the student enrolls in an institution of higher education, his/her experiences may strengthen or diminish educational goals. Commitment to the institution is an important

variable determined primarily by the interactions with others at the institution and the degree to which academic and social integration occur. Integration refers to the degree to which the student feels a part of the educational community, as evidenced by participation in college activities and satisfaction with and success in the courses and the academic program. The decision to leave an institution is directly related to intentions and goal commitments as modified by the college experience.

Research has consistently identified intention and commitment as very important attributes related to departure or retention. Bean (1980) found that institutional commitment was the most important factor in explaining withdrawal. In another study (Bean, 1982), the intent to leave the institution, based on an affirmative response to a survey question asking if the student intended to return to the university, had the greatest impact of any single variable in predicting student attrition. Munro (1981) identified goal commitment, defined as how far the student plans to go in school, as having the strongest effect on persistence among a large national sample of students. Pascarella and Chapman (1983), in a multi-institutional study of the validity of Tinto's model, found that institutional and goal commitment increased the ability to predict persistence after controlling for student background, institutional characteristics, and academic and social integration.

In many studies, students who withdraw prior to graduation are viewed as failures and are labeled "dropouts." However, it

is clearly inappropriate to view all withdrawals as failures. Tinto (1987) cautions against defining "dropout in ways that contradict the students' own understanding of their leaving" (p. 132). He views some instances of departure prior to graduation as positive actions toward students' individual goal attainment. One such example is transferring to another institution which can better satisfy their goals. Students may enroll with the intention of transferring from the institution, perhaps because they were not accepted at their first-choice institution or because their parents wanted them to attend another institution initially. Clearly these students have less commitment to the institution of their first enrollment, although their commitment to their goal of attaining a four-year degree may be as high, if not higher, than the commitment of those who plan to graduate from the institution of initial enrollment. In this case, we would expect, based on Tinto's model, that these students would not persist to graduation, given the opportunity to transfer to other desirable institutions.

In fact, the opportunity to transfer is an important determinant of dropping out (Bean, 1980, 1982). These studies identified the availability of other desirable institutions which had accepted the student as a factor related to withdrawal.

In this study we examine the impact of original intent to transfer and its interaction with academic performance to enrollment status after one year. Because the population studied is approximately 95% black, the validity of Tinto's model for blacks was a concern. However, Pascarella's study (1985) of

the differential validity of Tinto's model for white males, black males, white females, and black females concluded that the constructs had similar relationships for the four subgroups (Pascarella, 1985). Therefore, the theoretical model is judged appropriate for this population.

The research questions addressed are as follows: (1) Do freshmen who intend to transfer have higher withdrawal rates than those who plan to graduate? (2) Are the profiles of students who plan to transfer different from those who plan to graduate? (3) Does intent to graduate from the institution increase the ability to predict retention status after controlling for academic aptitude, high school performance, and attitudes and goals? (4) Does intent to graduate interact with freshman performance in predicting retention status?

## METHODOLOGY

The Office of Research, Evaluation and Planning has had a longitudinal tracking system for over ten years. In addition to the tracking files, freshman survey data are available for the classes entering in 1982, 1985 and 1987. A recent report describing survey results from the 1987 entering freshmen indicated that over 25% expect to transfer to another institution without completing a four-year degree at this institution (Rogers, 1988). The survey of the 1985 class reported similar findings (Gentemann, 1986).

Freshman cohorts are identified each fall as first-time freshmen if they have not previously enrolled in another

institution of higher education. These cohorts are tracked at the beginning of each subsequent fall semester, and the status of each student is added to the cohort file. The status categories are "enrolled," "graduated," "suspended," or "withdrew voluntarily." For this study, suspended students were omitted from the analysis. In addition to retention status, SAT scores, high school rank, semester and cumulative GPAs, scores on entering freshman tests in English and math, race, sex, and residence are contained on the tracking files.

Included on the freshman surveys are a number of items about expectations and goals. A specific question asked whether the student intended to graduate from the institution or to transfer.

A factor analysis of the attitude and goal questions on the freshman survey resulted in the extraction of five factors that are stable for both the 1985 and 1987 cohorts, described as follows: (1) pursuit of education for growth and development; (2) academic self-concept; (3) social and personal reasons for attending college; (4) parental encouragement and support; and (5) occupational and economic reasons for attending college. Scale scores were based on the sum of items with a factor loading of .30 or higher on the factors.

The cohort tracking files were merged with the survey data, using the student identification number as the linking variable. Responses to the question "What are your present educational plans?" were collapsed into two categories: expect to obtain a

degree from this institution and expect to transfer. A chi square analysis was used to determine the relationship between intent and persistence versus voluntary withdrawal after one year for the 1985 and 1987 groups.

To provide profiles of students based on intent, those who planned to transfer were compared with those who planned to graduate from the institution of first enrollment. Means on SAT scores, high school rank, scale scores, and freshman-year grade-point averages were compared for the two groups.

A multivariate procedure was used to analyze the impact of intent on retention status after controlling for the other variables. A hierarchical regression analysis, as recommended by Terenzini (1982), was used to test the theoretical relationships of academic aptitude, attitudes and goals as measured by the five scales, intent, and actual college performance to retention status, the dummy-coded dependent variable.

Sets of variables are entered into the analysis in the order specified by Tinto's theory. First academic aptitude, as measured by SAT scores and high school rank, is entered in the model. In the second model, attitudes and goals, as measured by the five scales, are added to the academic variables, and the R-squares in the two models are compared to determine if the second model results in significant improvements in the explanation of retention status. The third model adds the independent variables of intent, freshman-year grade-point average (FYGPA), and the interaction of intent and FYGPA. Once again increases in the R-squares are tested

for statistical significance. In each of the three models, if the overall F value was statistically significant at the .05 level, then the significance of each of the independent variables was examined.

The results from the 1985 cohort were compared with those for the 1987 cohort to see if the models were similar.

## RESULTS

Student intent was found to be significantly related to retention status at the beginning of the second year of college for both the 1985 and the 1987 cohorts. For the 1985 cohort, 87.9% of those who intend to graduate (GRADUATE) were still enrolled as opposed to 71.7% of those who intend to transfer (TRANSFER) (chi square=9.168,df=1,p<.01). Similarly for the 1987 cohort 91.7% of the GRADUATE group were enrolled at the beginning of the second year, as compared to 81.0% of the TRANSFER group (chi square=8.385,df=1,p<.01).

TABLE 1

The Relationship of Intent to Second Year Retention Status for 1985 and 1987 Freshman Cohorts

| | 1985 Cohort | | | | 1987 Cohort | | | |
|---|---|---|---|---|---|---|---|---|
| | Actual Year 2 Status | | | | Actual Year 2 Status | | | |
| Intent | Enrolled | | Withdrew | | Enrolled | | Withdrew | |
| | N | % | N | % | N | % | N | % |
| Graduate | 181 | 87.9 | 25 | 12.1 | 266 | 91.7 | 24 | 8.3 |
| Transfer | 43 | 71.7 | 17 | 28.3 | 77 | 81.0 | 18 | 19.0 |

The comparison of students who planned to transfer with those who planned to graduate did not yield many significant differences. Table 2 presents the means for the 1985 and 1987 cohorts separately for the two subgroups. Of the significant differences, only the scale of parental support was significantly different for both the 1985 and 1987 cohorts. For both cohorts, the freshmen who enrolled with the intention of graduating reported a higher level of parental support and encouragement. The other significant differences did not hold true for both cohorts.

TABLE 2

Comparison of Means for the 1985 and 1987 Freshman Cohorts

| | 1985 Cohort | | 1987 Cohort | |
|---|---|---|---|---|
| | Grad. | Transfer | Grad. | Transfer |
| SAT Math | 354.7 | 352.7 | 366.2 | 370.5 |
| SAT Verbal | 326.8 | 324.3 | 342.7 | 360.3 |
| High School Rank | .594 | .502 | .592 | .561 |
| Motives | 29.5 | 27.9 | 29.6 | 29.1 |
| Academic Self-Concept | 17.5 | 16.7 | 17.4 | 16.3 |
| Parental Support | 7.4 | 6.8 | 7.1 | 6.5 |
| Social Motives | 7.3 | 7.4 | 6.5 | 6.9 |
| Job Motives | 2.4 | 2.3 | 2.2 | 2.2 |
| FYGPA | 2.19 | 2.07 | 2.30 | 2.31 |

NOTE: Values at the end of brackets are significantly different at .05 level.

The regression analyses were conducted to determine how well the standard admission variables, attitudes and goals, and initial intent predicted retention status at the beginning of the second year. The results of the hierarchical regression analyses are presented in Table 3 below. The first model, using SAT math, SAT verbal, and high school rank as independent variables, was not statistically significant in predicting retention status for either the 1985 or 1987 cohorts. The second model, which added the five attitudinal and goal scales, was also not significant in predicting retention status at the beginning of the second year. The third model, which included intent, freshman-year grade-point average (FYGPA), and the interaction of intent and FYGPA, was statistically significant for both cohorts. For the 1985 cohort, almost 13% of the variance in retention status was explained by this model. For the 1987 cohort, less than 7% of the variance was explained.

Increases in the R-square for each model were tested. The third model, which included all the independent variables plus the interaction of intent and grade point average, had a significantly larger R-square than the other two models. This finding was consistent for both the 1985 and 1987 cohorts.

In the final model, the variables with regression coefficients reaching the .05 significance level for the 1985 cohort were the scale consisting of items relating to educational motives of growth and development and the interaction of FYGPA and intent. High school rank and intent (plan to graduate or transfer) approach significance. The model for the 1987 cohort was similar with only

the one scale of educational motives and the interaction of FYGPA and intent yielding significant regression coefficients.

TABLE 3

Hierarchical Regression Analyses for 1985 and 1987 Cohorts

| Model 1: Regression of Retention Status | | | | |
|---|---|---|---|---|
| INDEPENDENT VARIABLES | 1985 Cohort | | 1987 Cohort | |
| SAT Math | F Value | 0.23 | F Value | 0.63 |
| SAT Verbal | R-Square | .0026 | R-Square | .0049 |
| High School Rank | | | | |

| Model 2: Regression of Retention Status | | | | |
|---|---|---|---|---|
| INDEPENDENT VARIABLES | 1985 Cohort | | 1987 Cohort | |
| SAT Math | F Value | 1.19 | F Value | 1.19 |
| SAT Verbal | R-Square | .0357 | R-Square | .0247 |
| High School Rank | | | | |
| Motive | | | | |
| Concept | | | | |
| Parent | | | | |
| Social | | | | |
| Job Motive | | | | |

| Model 3: Regression of Retention Status | | | | |
|---|---|---|---|---|
| | 1985 Cohort | | 1987 Cohort | |
| | F Value | 3.42* | F Value | 2.43* |
| | R-Square | .1289** | R-Square | .0670** |
| INDEPENDENT VARIABLES | Probability | | Probability | |
| SAT Math | NS | | NS | |
| SAT Verbal | NS | | NS | |
| High School Rank | <.10 | | NS | |
| Motive | <.01 | | <.05 | |
| Concept | <.10 | | NS | |
| Parent | NS | | NS | |
| Social | NS | | NS | |
| Job Motive | NS | | NS | |
| Intent | <.10 | | NS | |
| FYGPA | NS | | NS | |
| Intent*FYGPA | <.01 | | <.05 | |

NS = Not statistically significant
*p <.05
** Significant increase in R-Square at .05 level

To explore the interaction of intent and freshman-year grade point average (FYGPA), we examined the mean FYGPA separately for the four groups: those who intended to graduate and are still enrolled; those who intended to graduate and withdrew; those who intended to transfer and are still enrolled; and those who intended to transfer and withdrew. Table 4 presents these means.

TABLE 4

Mean Freshman-Year Grade Point Average by Intent and First-Year Retention Status

| | 1985 Cohort | | 1987 Cohort | |
|---|---|---|---|---|
| | Enrolled | Withdrew | Enrolled | Withdrew |
| INTENT | | | | |
| Graduate | 2.26 | 1.89 | 2.35 | 1.81 |
| Transfer | 2.04 | 2.41 | 2.29 | 2.37 |

For both the 1985 and 1987 cohorts, the group with the highest FYGPA was those who planned to transfer and did not enroll at this institution after their first year (2.41 and 2.37). The group with the lowest FYGPA was those who planned to graduate but did not enroll after their first year (1.89 and 1.81). The group which planned to graduate and were retained had a mean FYGPA over 2.0 (2.26 and 2.35).

## DISCUSSION

The results of this study lead to some very interesting conclusions regarding the origins of student attrition. At the University from which these data were drawn, and presumably at many

other institutions of higher education, it appears that large numbers of freshmen may enter college with the specific intent to transfer and that those who do so have very different enrollment and graduation patterns from students who express an intent to graduate from the original institution. Further, it appears that the two groups do not differ substantially in terms of scholastic aptitude. In addition, there are few differences in the profiles of the two groups based on motivational and attitudinal scales. The only consistent difference for both the 1985 and the 1987 cohorts is that those who plan to graduate report more parental support and encouragement than those who plan to transfer. The difference in the means on this scale may be caused primarily by the item relating to the importance parents attached to their child attending this specific institution. The students' commitment to the institution is more than likely influenced by their parents' support of and commitment to the institution. These two groups did not differ significantly on grades earned during the first year of college.

The results from the regression analyses are fairly consistent for the two cohorts. Previous academic achievement and aptitude do not relate directly to persistence in college beyond the first year. The addition of other attitudinal scales to the achievement variables does not improve the prediction. It is only in the final model, when intent and freshman-year grade point average are included, that we are able to predict persistence, with any degree of confidence. Even then the proportion of variance explained is

quite small. However, the fact that the dependent variable is a class variable rather than a continuous variable will lessen the overall effect of the independent variables.

It is the interaction of intent and grade-point average that is the most important predictor of retention after the first year of college. This interaction is logical. Students who plan to transfer and subsequently do not enroll have the **highest** first-year GPAs, on the average. In all probability, most students in this group were able to transfer to the college of their choice, confirming Bean's findings (1980, 1982) that the **opportunity** to transfer is an important determinant of retention status. On the other hand, those who expect to graduate but drop out the first year have the **lowest** average FYGPAs of all four groups. In all likelihood, this group withdrew because of low academic performance even though they were still technically eligible to enroll. The freshmen who plan to graduate from this college and persist have the second **highest** average FYGPA, indicating academic success and progress toward their goal of degree completion. The last group is those who plan to transfer but continue after one year . This group has average FYGPAs of 2.0 and 2.29, suggesting that they are not in academic difficulty at this institution; but that they may be marginal for transferring to another institution. It may be that they have attempted to transfer but have not been accepted. The alternative is to continue at this college, for the purpose of improving their GPAs and thus increasing their opportunities of successful transfer to another institution.

Consistent with previous research, initial commitment to the institution is an important factor which influences retention. Clearly, knowledge of student intent and academic performance in college provide a better explanation of attrition than high school performance and SAT scores. Without taking into account the academic performance of students during their first year of college, commitment alone appears to be unrelated to retention after the first year. Consistent with Tinto's theory (1975, 1987), the college experiences--especially academic integration--affect commitment to continue. Perceived academic failure leads to withdrawal. Lack of commitment to this specific institution, defined as those who plan to transfer, is predictive of withdrawal after the first year when college grades are satisfactory.

Retention, withdrawal, and graduation rates alone offer cold statistics. Survey data may hold some of the answers as to why students behave as they do. Tracking the students who plan to graduate from the institution separately from those who have no such intentions has given a very different picture of retention and withdrawal. Future studies will continue to examine the withdrawal and graduation patterns for these two groups, with the expectation that students who profess the intent of graduating may differ on other variables not yet explored.

The information gathered to date will prove very helpful in refining models for enrollment projections. Beyond prediction of future enrollment, the institution is interested in improving the retention rate for incoming students. At this point, the

institution must also begin to address the philosophical issue of whether to plan special programs in an attempt to retain those students who enter intending to transfer, or whether to provide the best basic education possible and assist the students in meeting their original goal. Tinto (1987) has described in some detail the patterns of student enrollment and has provided a detailed analysis of the reasons some students leave college. He concludes that there is a "paradox of institutional commitment" which is that "....institutions that are willing to encourage students to leave are also those that are more likely to have students who will stay" (p. 184). He further indicates that "....it may well be that the efforts of institutions to retain a particular type of student or deal with given types of student departure also serve to increase the likelihood of other types of student departure" (p. 186). Clearly the institution must examine this paradox as it develops strategies for improving student retention.

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